

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of  
CAMPBELL et al.  
Serial No. 10/594,666  
Filed: September 28, 2006  
For: MAST LIFT MACHINE

Conf. No.: 2311  
Atty. Ref.: AMK-3638-896  
TC/A.U.: 3634  
Examiner: D. Cahn

\* \* \* \* \*

November 23, 2010

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Sir:

Appellants hereby **appeal** to the Board of Patent Appeals and Interferences from the last decision of the Examiner.

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(I) **REAL PARTY IN INTEREST**

The real party in interest is JLG Industries, Inc., a corporation of Pennsylvania.

**(II) RELATED APPEALS AND INTERFERENCES**

The appellants, the undersigned, and the assignee are not aware of any related appeals, interferences, or judicial proceedings (past or present), which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

**(III) STATUS OF CLAIMS**

Claims 1-20, 22 and 23 are present in this application. Claims 3, 7-16, 19, 22 and 23 have been withdrawn from consideration, and claims 21 and 24 have been canceled. Claims 1, 2, 4-6, 17, 18 and 20 have been rejected and are on appeal.

**(IV) STATUS OF AMENDMENTS**

No amendments have been filed since the Final Office Action dated June 2, 2010.

**(V) SUMMARY OF CLAIMED SUBJECT MATTER AND SPECIFIC SUPPORT FOR INDEPENDENT CLAIM**

The invention relates to a personnel lift and, more particularly, to a portable lift machine including a work platform raised and lowered on a mast by a lifting system. The lifting machine is transportable and operable by a single user.

**Claim 1**

The mast lift includes a mast 12, a personnel work platform 14 movably secured to the mast, and a lift system 16 coupled between the work platform 14 and the mast 12. The lift system 16 effects raising and lowering of the work platform 14 on the mast 12. See page 4, lines 24-28. The mast lift is a portable stand-alone unit, either free-standing or supportable against a support surface. The machine weight of the mast lift is less than 200 lbs. See page 8, lines 3-7.

**Additional Features**

The work platform 14 preferably includes a safety rail 58 at least partially about its perimeter. See page 7, lines 20-21. The lift system 16 is preferably coupleable with a power source, such as a battery pack or a hand-held drill. See page 7, lines 3-10. In one construction, a machine weight of the mast lift is less than 150 lbs., and in yet another construction, a machine weight of the mast lift is less than 120 lbs. See page 8, lines 3-7.

**Claim 20**

In another exemplary embodiment, a mast lift for personnel is configurable with a plurality of independent components. The independent components include a base unit with a mast 12, a stand 18, and a platform lifting system 16. A personnel work platform 14 is attachable to the base unit. See page 4, lines 24-29. A power pack 52 is engageable

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with the platform lifting system 16. See page 7, lines 3-10. The mast lift is a portable stand-alone unit, either free-standing or supportable against a support surface, where the machine weight of the assembled mast lift is less than 200 lbs. See page 8, lines 3-7.

**(VI) GROUNDΣ OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claim 20 is unpatentable under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 3,752,263 to Thevenot, or in the alternative, under 35 U.S.C. §103(a) as being unpatentable over Thevenot.

2. Whether claims 1, 2, 4-6, 17 and 18 are unpatentable under 35 U.S.C. §103(a) over Thevenot.

3. Whether claims 5 and 6 are unpatentable under 35 U.S.C. §103(a) over Thevenot in view of U.S. Patent No. 5,522,583 to Martin.

**(VII) ARGUMENT**

1. *Claim 20 is not unpatentable under 35 U.S.C. §102(b) over U.S. Patent No. 3,752,263 to Thevenot, nor is claim 20 unpatentable under 35 U.S.C. §103(a) over Thevenot.*

As recognized in the Office Action, Thevenot lacks at least the claimed machine weight of the mast lift being less than 200 pounds. The Office Action contends, however, that this feature of the invention “would have been an obvious matter of design choice.” To the contrary, machine weight cannot be simply arbitrarily “designed,” but rather is a function of an assembly of materials capable of performing intended functionality. This standard is even more difficult to accomplish when considering safety regulations for such devices. When considering the weight of machine components, it is not merely “design choice” for a manufacturer to simply select the weight of the assembled components.

The Office Action further contends that “discovering an optimum weight would have been a mere design consideration,” and that “such a modification would have involved only routine skill in the art to accommodate different weight requirements depending on the desired characteristics of the mast.” Appellants respectfully submit, however, that substantial engineering input was required in order to achieve the defined weight requirement of the invention.

The prescribed motivation of making the mast “as light as possible simply to make its transport easier” is idealistic but structurally impossible with the Thevenot structure. Indeed, the motivation for such a conclusion could only be derived from Appellants’ own

specification, and such hindsight is insufficient to support a conclusion of obviousness.

The Office Action is confusing an obviously desirable feature (low weight and portability) with structural obviousness. The materials disclosed in the Thevenot structure, however, cannot be ignored. Appellants believe they have achieved significant advantages over all existing systems by constructing the claimed mast lift within a specified weight parameter, and Appellants submit that the dismissal of this important feature of the invention as merely obvious is entirely misplaced.

Although Thevenot is silent with regard to machine weight, an analysis of the Thevenot structure reveals that using even the lightest materials available, the Thevenot structure would weigh considerably more than 200 pounds. Appellants conducted an analysis of the Thevenot structure, and from this analysis, it is clear that the device disclosed in the Thevenot patent could not be modified to meet claimed 200 pound parameter. The device disclosed in the Thevenot patent using steel would weigh over 650 pounds, and using aluminum materials, the Thevenot device would weigh at a minimum approximately 300 pounds. The data used to support this analysis is attached in the Evidence Appendix. For proper comparison and without limiting the claims of the present application, the data was based on structure in the Thevenot patent to reach a height of a 14-foot platform. The calculated weight amounts do not include many of the parts shown, which of course would add further weight to the Thevenot structure.

In the “Response to Arguments” section of the Office Action, the Examiner questions the data in the Appendix table. Appellants note that the table is structured in a manner that would *minimize* the weight of the Thevenot structure – i.e., Thevenot would

weigh *at least* as much as identified in the table; in reality, the structure would weigh much more. Even under these conditions, the Thevenot structure could not have been modified to meet the weight criteria defined in the claims, whether built in steel or aluminum. Clearly, any such analysis cannot exactly calculate the weight from the Thevenot information available – so assumptions and simplifications are necessary. The analysis does however show that it would not have been obvious to do what Appellants have done based on Thevenot. Appellants have rebutted the Examiner's contentions with data and analysis, whereas the Examiner simply disregards or dismisses the data and concludes without basis that it would have been obvious to reconstruct the Thevenot design to meet the claimed weight requirements. Since Appellants believe they have rebutted any *prima facie* case of obviousness, the burden shifts back to the Examiner. In the present case, the Examiner only dismisses Appellants' analysis without re-establishing a *prima facie* case of obviousness.

With regard to the height, Appellants made the height equivalent to take this out of the debate. There is a note to this effect at the top of the table. Actually the higher the unit, the more the claimed invention comes out ahead as extra height on the claimed design adds only a few pounds per foot of height.

With regard to using different types of Aluminum and steel of different densities, Appellants respectfully question if the Examiner really understands what is represented in the table. The variation in Aluminum densities is very small across a wide range of alloys in normal use. The table assumes a density of  $2.7 \text{ kg/m}^3$  which is a very common/standard density. For the Examiner's reference, Alcan Inc obtained a patent on

an Aluminum alloy based on its light weight properties. The alloy is the so-called low density 6056 aircraft Aluminum alloy:

An Al-Mg-Si-Cu-Mn weldable aerospace alloy developed to provide medium strength similar to that of the incumbent 2024 alloy with a lower density patented by Alcan Inc., Montreal, Quebec. Density of aluminium 6056 is 2.72 kg/m<sup>3</sup> (0.098 lb/in<sup>3</sup>); density of aluminum 2024 is 2.78 kg/m<sup>3</sup> (0.100 lb/in<sup>3</sup>).

While Appellants agree there may be lower weight materials, the variation in real world materials is minor on what has been used. The Examiner's reference to alloys such as titanium and magnesium are without basis as no data to support these contentions is provided. If desirable, Appellants will limit the claims to aluminum or steel construction.

Notwithstanding, for at least the reasons discussed above, Appellants submit that the rejections should be withdrawn.

2. *Claims 1, 2, 4-6, 17 and 18 are not unpatentable under 35 U.S.C. §103(a) over Thevenot.*

The features defined in claim 1 are similar to those discussed above with regard to claim 20. Appellants thus submit that claim 1 is allowable for the same reasons. That is, claim 1 recites that a machine weight of the mast lift is less than 200 lbs. The Examiner recognizes that Thevenot is silent with regard to machine weight. Appellants have demonstrated that the Thevenot structure could not have been modified to meet the claimed weight criteria, and Appellants thus submit that the rejection is misplaced. With regard to the dependent claims, Appellants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Reversal of the rejection is requested.

3. *Claims 5 and 6 are not unpatentable under 35 U.S.C. §103(a) over Thevenot in view of U.S. Patent No. 5,522,583 to Martin.*

The Martin patent was cited for the proposition of a power pack and/or a hand-held drill as a power source. Without conceding these contentions, Appellants submit that the Martin patent does not correct the deficiencies noted with regard to Thevenot. As such, these dependent claims are allowable at least by virtue of their dependency on an allowable independent claim. Reversal of the rejection is requested.

**CONCLUSION**

In conclusion it is believed that the application is in clear condition for allowance; therefore, early reversal of the Final Rejection and passage of the subject application to issue are earnestly solicited.

Respectfully submitted,

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(VIII)      CLAIMS APPENDIX

1. A mast lift for personnel comprising:
  - a mast;
  - a personnel work platform movably secured to the mast; and
  - a lift system coupled between the work platform and the mast, the lift system effecting raising and lowering of the work platform on the mast,wherein the mast lift is a portable stand-alone unit, either free-standing or supportable against a support surface, and wherein a machine weight of the mast lift is less than 200 pounds.
2. A mast lift according to claim 1, wherein the work platform comprises a safety rail at least partially about its perimeter.
4. A mast lift according to claim 1, wherein the lift system is coupleable with a power source.
5. A mast lift according to claim 4, wherein the power source comprises a battery pack.
6. A mast lift according to claim 4, wherein the power source comprises a hand-held drill.
17. A mast lift according to claim 1, wherein a machine weight of the mast lift is less than 150 pounds.
18. A mast lift according to claim 1, wherein a machine weight of the mast lift is less than 120 pounds.
20. A mast lift for personnel configurable with a plurality of independent components, the independent components comprising:

    a base unit including a mast, the base unit also including a stand, and the base unit also including a platform lifting system;

    a personnel work platform attachable to the base unit; and

a power pack engageable with the platform lifting system,  
wherein the mast lift is a portable stand-alone unit, either free-standing or supportable  
against a support surface, and wherein a machine weight of the assembled mast lift is less than  
200 pounds.

**(IX) EVIDENCE APPENDIX**

Table showing weight comparison of Thevenot structure.

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**(X) RELATED PROCEEDINGS APPENDIX**

NOT APPLICABLE

### Thevenot Lift Weight Analysis

Shown for construction in Steel and also if structure was Aluminium  
14ft height

**Notes:** The Thevenot unit is neither light weight nor portable.

### APPENDIX A

GGC March 2010

Part	Part No.	Area 1	Area 2 if composite shape	Total Length	Quantity	Volume = $(A1+A2) \times$ Length	Weight Assuming Steel Construction (Kg)	Weight Assuming Aluminium Construction (Kg)
Tower verticals - L shape	39 & 15A - 4 of	0.0003	0.0003	4.2672	4.0	0.0085	65.71	23.04
Tower horizontal - L shape	17 - 4 per level 5 level	0.0003	0.0003	0.4800	20.0	0.0048	36.96	12.96
Tower angle braces	16 - 4 per side, 4 sides	0.0001	0.0000	0.4800	16.0	0.0010	7.39	2.59
Base frame - sides	10	0.0002	0.0005	1.4000	2.0	0.0020	15.09	5.29
Base frame - lengths	11	0.0002	0.0005	2.0000	2.0	0.0028	21.56	7.56
Platform rails	21,20,22,28,24	0.0003	0.0000	14.0	0.0045	34.50	12.10	
Motor Platform	28,22	0.0006	0.0000	3.0000	1.0	0.0018	13.86	4.86
Rollers for platform to travel	24,25	0.0079	0.0030	8.0	0.0002	1.45	1.45	
Coupling	28	0.0079	0.0000	1.0	0.0008	6.05	6.05	
Motor	27					15.00	15.00	
Bolts (18)						3.60	3.60	
Roller Frame	24A	0.0015	0.0005	1.0000	2.0	0.0040	30.80	10.80
Platform wood (assumed)	19					5.00	5.00	
Cross rails	17A	0.0003	0.0003	0.5000	4.0	0.0010	7.70	2.70
Chain Pinions	33,34	0.0079	0.0020	3.0	0.0000	0.36	0.36	
Chain	39 @ 1kg per metre			8.0000		8.00	8.00	
Emergency Brake	26					15.00	10.00	
Rollers at base of device	15	0.0177	0.0500	2.0	0.0018	13.61	4.77	
Cable for power to platform	Not incl					No incl	No incl	
Other parts	Not incl					Not incl	Not incl	

### Total Weight of Design

301.65	136.14	Kg
665.02	300.13	Pounds

**NOTE:** Dimensions of each part has been estimated using a scale taken by assuming a 40 inch high platform rail.

Areas and volumes have been calculated by hand to ensure as much accuracy as possible for the estimate. Note that many parts have not been included in the Thevenot unit weight - so the total weight is likely to be well above that noted here. The key point is that even if the Thevenot unit was constructed in aluminium, it would weigh well in excess of 200lb, and it is not 'portable' in a meaningful way. The JLG mast lift machine is much lower weight than Thevenot (even if Thevenot is made from aluminium), and is truly portable while meeting modern safety standards.